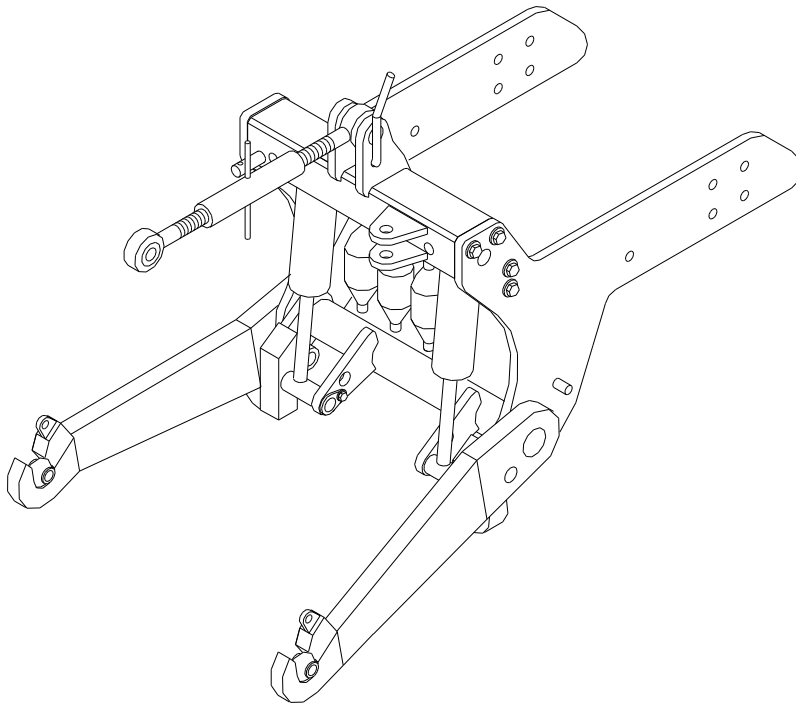




Declaration of Conformity

Mounting and Operating Instructions

Spare Parts List



HE-VA Integrated Front-Lift 55.01

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DS/EN 45 014

Declaration of Conformity

HE-VA
N.A. Christensensvej 34
DK-7900 Nykøbing Mors

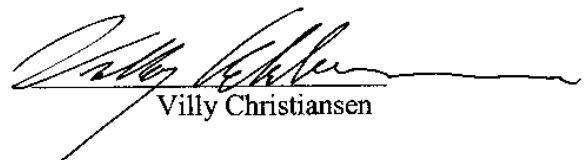
declares under our sole responsibility that the product:

HE-VA Integrated Front-Lift 5500 kg for:

Type 55.01 E - E ST - D - D ST - D AF ST

To which this declaration relates is in conformity with the provisions of
98/37/EF (Machinery) Directive with later amendments.

Nykøbing Mors, 01.01 2000



Villy Christiansen

HE-VA does not assume any responsibility for damages to the tractor.

1. Delivery Check

Both on delivery to the distributor/supplier and to the customer, the Front-Lift shall be checked for any damages.

Check the hydraulic hoses for cuts and squeezing damages. Check that the other hydraulic components have not been damaged in transit.

2. Machine Description

2.1. Application

The Front-Lift is for mounting at the front of tractors. The Front-Lift is developed for a variety of tractor models and may be equipped with short or long bearers according to the tractor design. Absorbers, spring suspension and double-acting hydraulics can be fitted as accessories. In the Front-Lift, different tools can be fitted: roller, land-packer, harrow, sweeper, snow plough, etc. The Front-Lift then lifts and lowers the tools and puts them in the required working position.

When working with swinging land-packers, etc., causing considerable torsional stresses in the Front-Lift and the tractor, the additional support of the lift arms shall be used. Such additional support is available as accessories. **If the tractor is exposed to such torsional stresses, HE-VA DOUBLET does not assume any responsibility for damages to the tractor.**

Attention! The Front-Lift must not be used for passenger transport

2.2. Technical Specifications

Lifting capacity at 190 bar oil pressure	5500 kg
Maximum load in coupling eyes	5500 kg
Quick couplings standard	1/2" cone type ISO 7241
Hydraulic oil filled up	Agip OSO 32
Noise level.....	below 70 dB (A)

The Front-Lift complies with DS/ISO 8759/2, Nov. 86 as regards the dimensions, locations and lifting height (categories III-II) of the coupling points. 825 mm between the quick couplings/Ø28 mm pin.

3. Mounting Instructions

3.1 General Information

As standard the Front-Lift is supplied with a complete mounting kit consisting of bolts, nuts, washers, hydraulic hoses, quick-couplings and cable binders/strips.

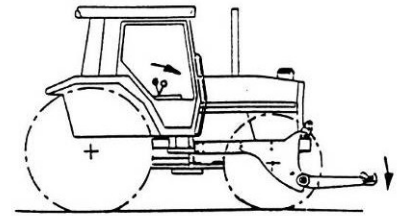
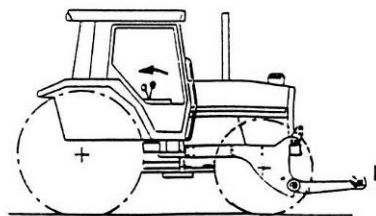
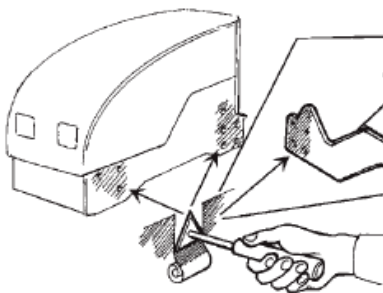
3.2 Mounting of Front-Lift

The following mounting instruction is a general instruction for the mounting of a HE-VA Front-Lift. There may be deviations in special cases, and if in doubt, please contact HE-VA.

1. Dismantle the basic weight of the tractor.
2. Dismantle the lift in one side so that the side plates can pass the front block.
3. Mount the first side plate and tighten slightly.
4. Mount the second side plate and tighten slightly.
5. Mount the top link attachment, cylinders and lifting console.
6. Now tighten all bolts. Remember it is very important that the bolts are lubricated in order to achieve adequate tightening. If in doubt about tightening moments, please contact HE-VA
7. Fit the hydraulic hoses to the hydraulic PTO of the tractor. The hoses must not hang but shall be attached e.g. by means of strong cable binders/strips. The hoses must not touch any sharp edges, which may damage them. Pay special attention to the movements of the front end.
8. With Front-Lifts with spring system the manometer incl. test hose shall be fitted to a place visible from the driver's seat (e.g. on the guard).
9. It may be necessary to adjust the control swing after the mounting of the Front-Lift depending on the tyre fitting and wheel distance.

Attention! No hydraulic hoses may be fitted in the driver's cab.

When connecting the hydraulics there shall be accordance between the movements of the hydraulic lever and the movement of the Front-Lift!



Clean contact surfaces before mounting

3.3 Mounting of Absorber, Spring Suspension and Double-acting Hydraulics

Generally

As standard the Front-Lift is equipped with single-acting hydraulics and **not** equipped with absorber, spring suspension and double-acting hydraulics. These are available as accessories. HE-VA DOUBLET supplies the accessories in sets, which are thus ready for mounting.

The purpose of the absorber (ST) is to absorb the hardest impacts when driving with lifted tools on uneven surfaces. With double-acting hydraulics, the weight may be transferred from the tractor onto the tool. In this connection we recommend that the Front-Lift is equipped with a spring suspension system (AF), thus achieving a shock-absorbing connection between the tractor and the tool.

3.4 Mounting of Double-acting Hydraulics

When mounting double-acting hydraulics, remove the filter plugs from the cylinders and fit the fittings and hydraulic hoses. The cylinders are prepared for the double-acting system.

3.5 Shock Absorber (ST)

Fit the accumulator (1 pc.) is fitted on the lifting side of the cylinders in accordance with the diagram on page 11, 13 or 15.

3.6 Spring Suspension (AF)

Fit the accumulators (2 pcs.) with 1 pc. on the lifting side and 1 pc. on the lowering side of the cylinders in accordance with the diagram on page 14 or 15.

Important !

Before the hydraulic system is dismantled, the system shall be depressurised. Be especially careful if the Front-Lift is equipped with accumulators (ST-AF).

When a dismantling of the hydraulic system is required, the Front-Lift shall be totally lowered. Any tools shall be placed on a firm support. Stop the tractor and move the control handles of the Front-Lift backwards and forwards until no more oil is flowing to back to the tractor.

Important !

After the mounting of accessories, the Front-Lift hydraulic system shall be flushed thoroughly so that chips from the cutting ring fittings used are removed and will not cause any damage to the hydraulic system of the tractor.

4. Operating Instructions

4.1 Lift Arms

The rest position of the lift arms may either be vertical or backwards and depends on the tractor design. For vertical rest position the supplied lock fittings shall be used and fitted when the lift is lowered. The lift arms will be locked when the lift is lifted to top position.

In rest position backwards, the arms shall be tipped manually up until they hit the limit stop, and no locking fittings shall be used.

4.2 Coupling of Tools

Fit the balls on the tool, drive the tractor into position and lift the Front-Lift so that the quick couplings catch the tool.

4.3 Uncoupling of Tool

We recommend that you place the tool on a plane ground. Release the locking mechanism when the tool is hanging freely and then lower the Front-Lift.

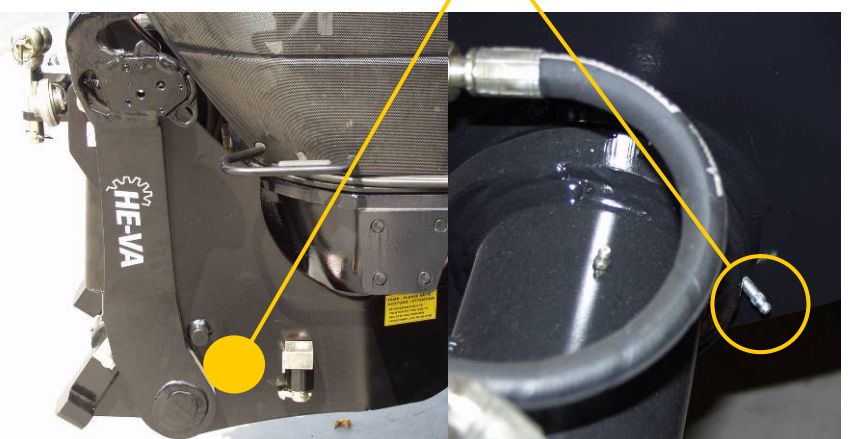
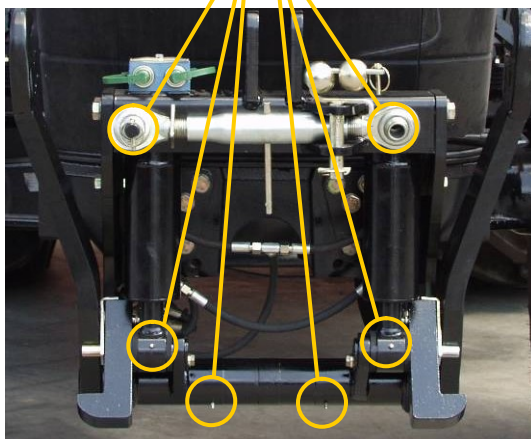
Warning !

When the tractor motor is started, no persons may stay within the reach of the tractor, Front-Lift or mounted tool.

4.4 Lubrication

When lubricating the Front-Lift and any mounted tool, lower the Front-Lift, brake the tractor, stop the motor and remove the ignition key!

There are 6 lubricating points on the Front-Lift, which shall be lubricated after every 25 hours of operation, 2 points on the Front-Lift, which shall be lubricated every 8 hours of operation, and 1 point on the mounted tool, which shall be lubricated every 8 hours of operation.



4.5 Maintenance

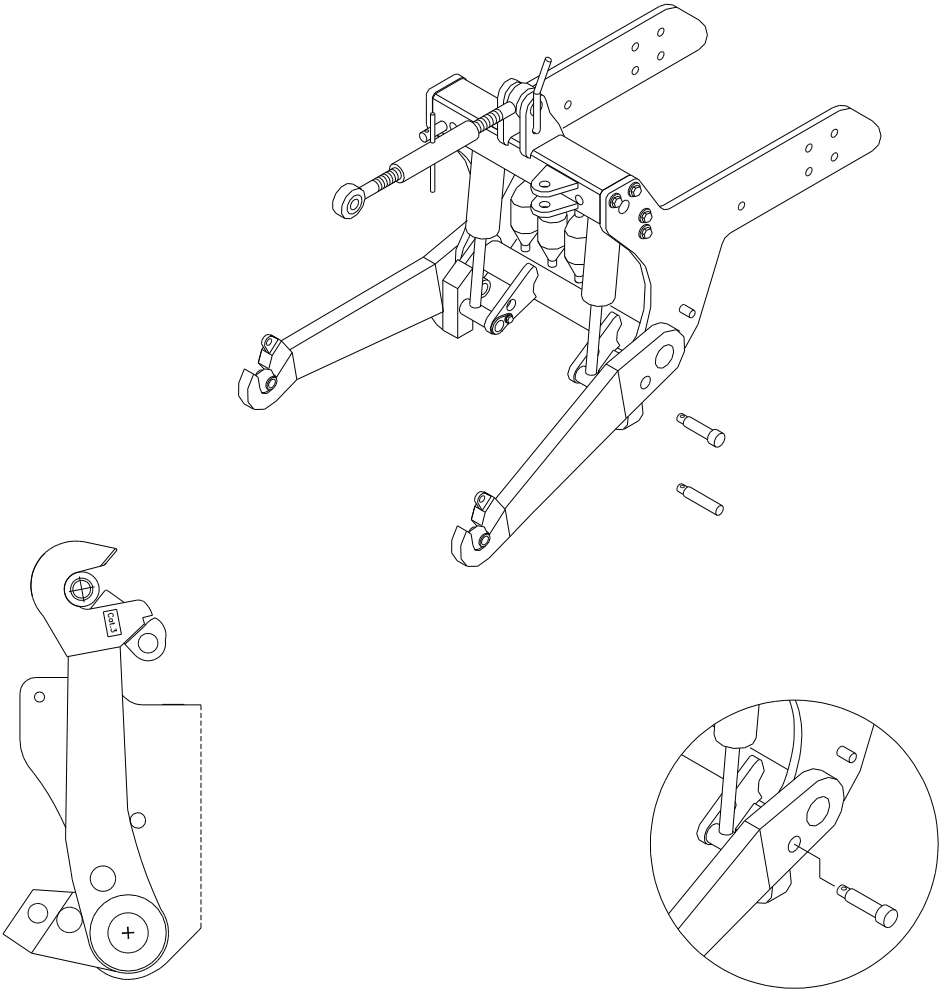
Retighten all bolts after the first 10 hours of operation. Check cylinders, hoses and fittings for leaks and retighten.

Then check that the Front-Lift bolts are tightened and that the hydraulic system does not leak oil.

In case of a standstill of some duration the Front-Lift should be lifted to protect the piston rods. If this is not possible (if a tool is mounted), the protruding part of the piston rods should be lubricated in grease.

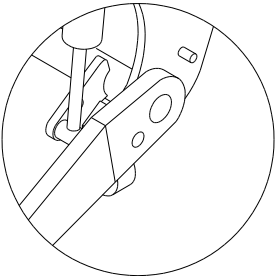
4.6 Locking Pin for Lift Arms

By fitting the locking pin in various ways, the movability of the arms can be determined. On page 8 the various possibilities are shown.

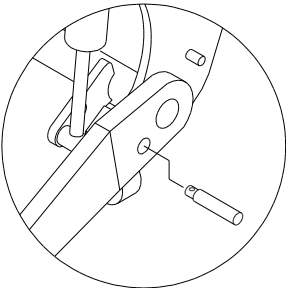


Put up the arms if the Front-Lift is not used for any length of time.

The lift arms are equipped with a shaft for locking position.

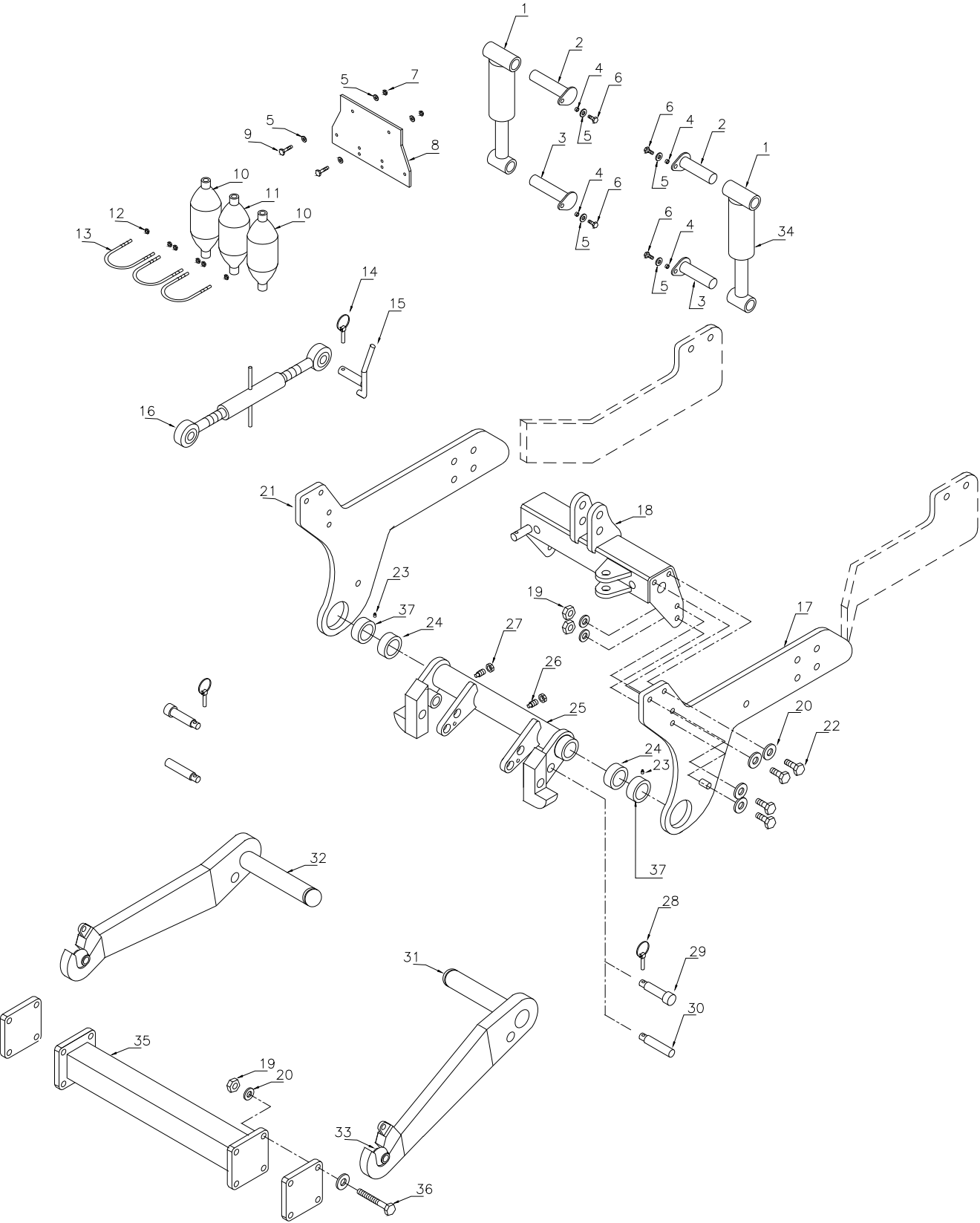


Remove the locking pin to obtain full movability. Put the pin in a holder.



The lift arms are equipped with a shaft for floating position.

5. Spare Parts List

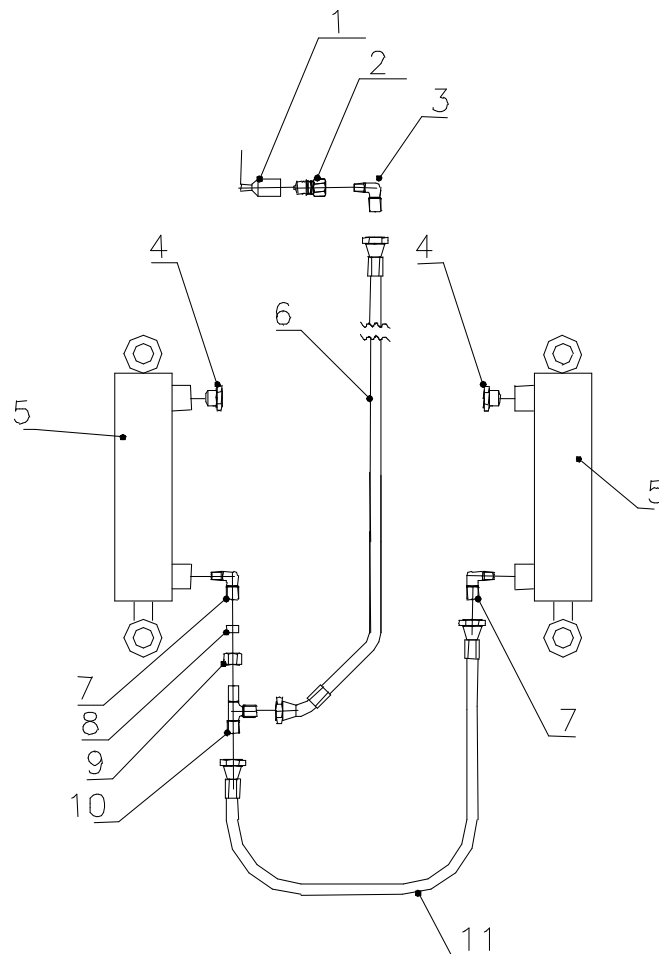


Item	Article No.	Designation	Quantity
1	690200280	Cylinder Ø100/40 SL = 185	2
1	690200259	Cylinder Ø90/40 SL = 185 (Buck Rake linkage)	2
2	668201010	Cylinder pin Ø40 L = 184	2
3	668202010	Cylinder pin Ø40 L = 170	2
4	630532500	Bushing Ø17x2,1 L = 6,5 mm	4
5	690115006	Face plate Ø12	8
6	690101101	Set screw M12x25	4
7	690113006	M12 self-locking nut	2
8	668201007	Mounting plate for accumulator	1
9	690101103	M12x35 set screw	2
10	690206403	Accumulator H0700R- 15 bar	2
11	690206435	Accumulator H0700R- 100 bar	1
12	690113004	Self-locking nut M8	6
13	690110001	U-bolt M8xØ92	3
14	690134004	Tractor split pin, Ø10	3
15	662000107	Top link pin Ø25 L= 127	1
16	690302011	Top link	1
17		Side plate, right	1
18	668201000	Top link console	1
19	690113008	M20 self-locking nut	12
20	690117013	Ø20 bevelled washer	24
21		Side plate, left	1
22	690103148	M20x75 bolt, qual. 8.8	8
23	690136002	Lub. nipple M6x1	2
24	668204001	Bearing bushing Ø115/Ø110 L= 40	2
25	668202005	Lifting console	1
26	690104001	Stop bolt M16	4
27	690112101	Lock nut M16	4
28	690134003	Tractor split pin, Ø8	2
29	668202006	Locking pin for lift arm, lock position	2
30	668202007	Locking pin for lift arm, floating position	2
31	668203002	Lift arm (left)	1
32	668203003	Lift arm (right)	1
33	690134006	Lift arm ball Cat. 3/2 Ø64/Ø28,4	1
34	690200288	Gasket set 100/40	2
34	690200268	Gasket set 90/40 (Buck Rake linkage)	2
35	668003005	Torsion bar	1
36	690103170	Screw M20x110 qual. 10.9	8
37	668202003	Bearing housing	2

6. Hydraulic Diagram

6.1 Single-acting Hydraulics

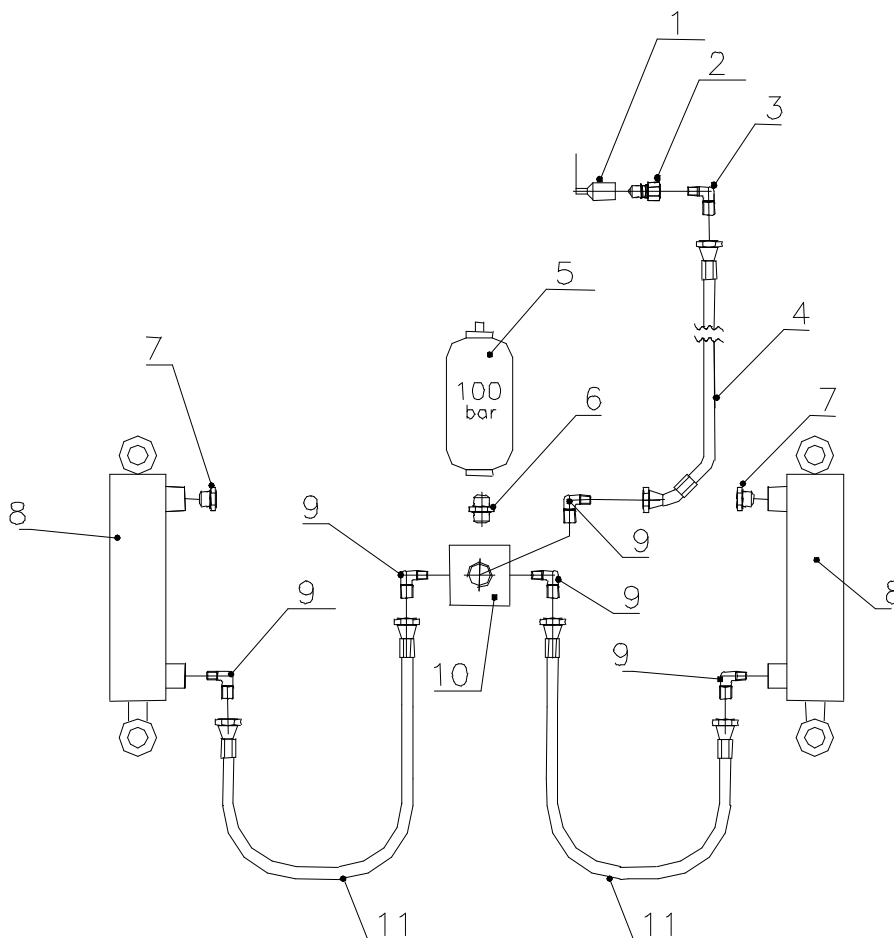
Item	Article No.	Designation	Quantity
1	690201001	Dust cap C51	1
2	690203001	Quick coupling, male E402	1
3	690203107	Angular screw-in union, VA12LK 1/2"	1
4	690206001	Filter plug, F38, 3/8"	2
5	690200280	Cylinder, Ø100/40 SL= 185 mm	2
6	690201310	Hydraulic hose 5500 mm 3/8" st/45	1
7	690203106	Angular screw-in union VA12LK 3/8" without DM	1
8	690203110	Cutting ring Ø12 mm	1
9	690203111	Union nut Ø12 mm	1
10	690203017	Adjustable bracket SL12L, without DM	1
11	690201207	Hydraulic hose 400 mm 3/8" st/st	1



6. Hydraulic Diagram

6.2 Single-acting with Shock Absorber

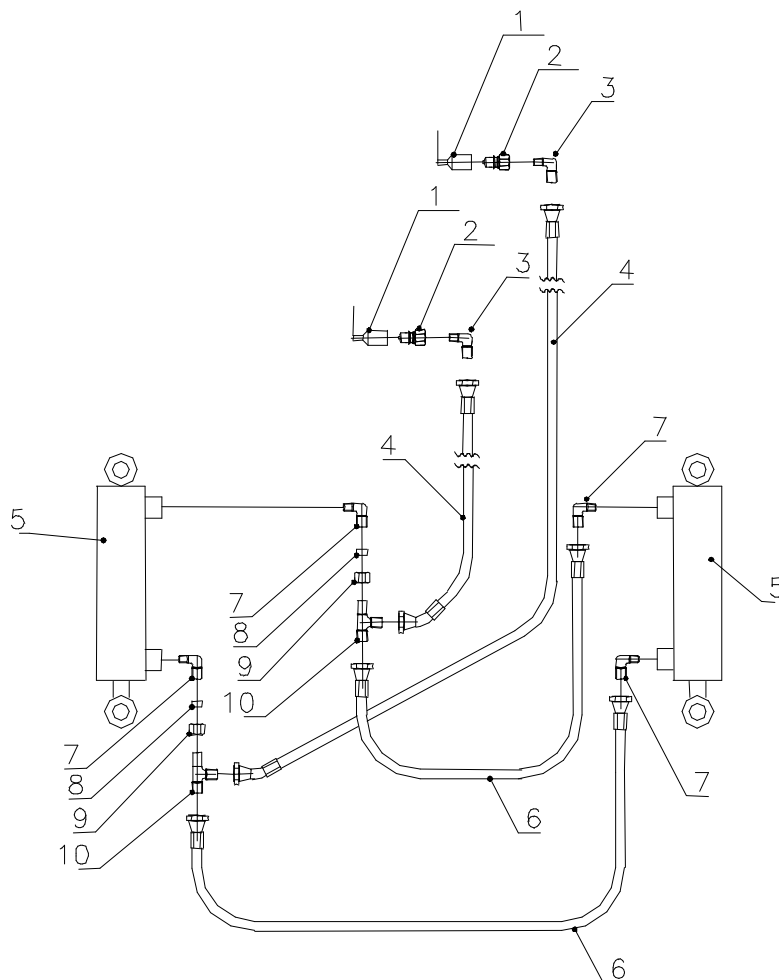
Item	Article No.	Designation	Quantity
1	690201001	Dust cap C51	1
2	690203001	Quick coupling, male E402	1
3	690203107	Angular screw-in union, VA12LK 1/2"	1
4	690201310	Hydraulic hose 5500 mm 3/8" st/45	1
5	690206435	Accumulator H0700R – 100 bar	1
6	690203102	Straight screw-in union GA12LK 3/8" without DM	1
7	690210001	Filter plug, F38, 3/8"	2
8	690200280	Cylinder, Ø100/40 SL= 185 mm	2
9	690203106	Angular screw-in union VA12LK 3/8" without DM	5
10	660501400	Three-block	1
11	690201219	Hydraulic hose 350 mm 3/8" st/st	2



6. Hydraulic Diagram

6.3 Double-acting

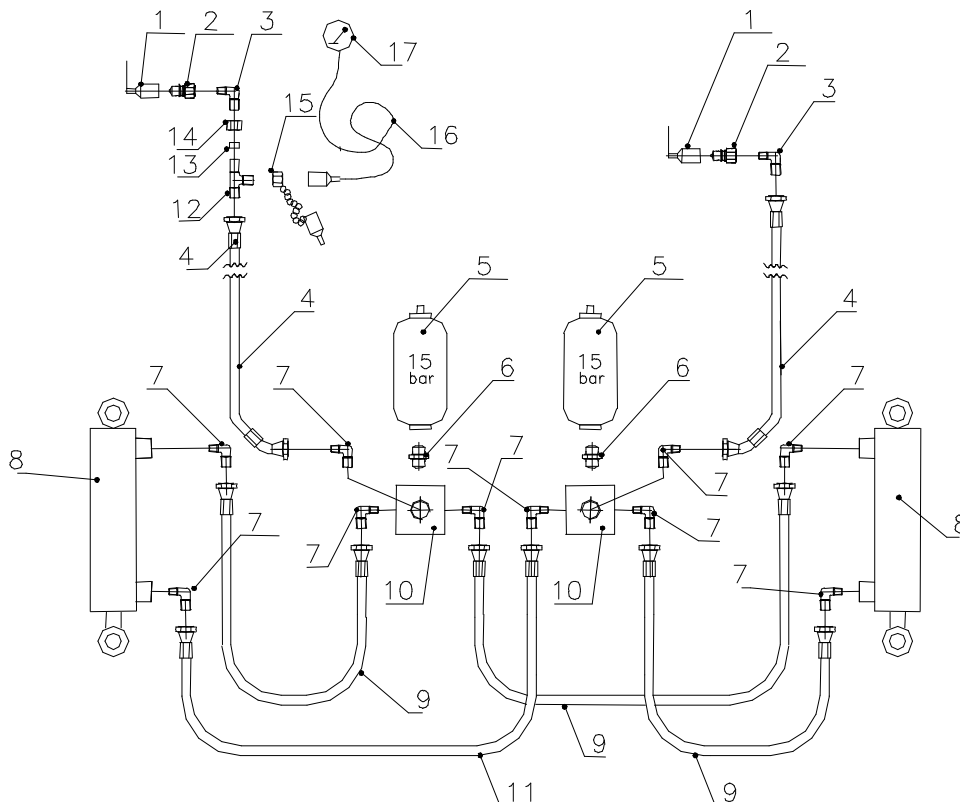
Item	Article No.	Designation	Quantity
1	690201001	Dust cap C51	2
2	690203001	Quick coupling, male E402	2
3	690203107	Angular screw-in union, VA12LK 1/2"	2
4	690201310	Hydraulic hose 5500 mm 3/8" st/45	2
5	690200280	Cylinder, Ø100/40 SL= 185 mm	2
6	690201207	Hydraulic hose 400 mm 3/8" st/st	2
7	690203106	Angular screw-in union VA12LK 3/8" without DM	4
8	690203110	Cutting ring Ø12 mm	2
9	690203111	Union nut Ø12 mm	2
10	690203017	Adjustable bracket SL12L, without DM	2



6. Hydraulic Diagram

6.4 Double-acting with Spring Suspension

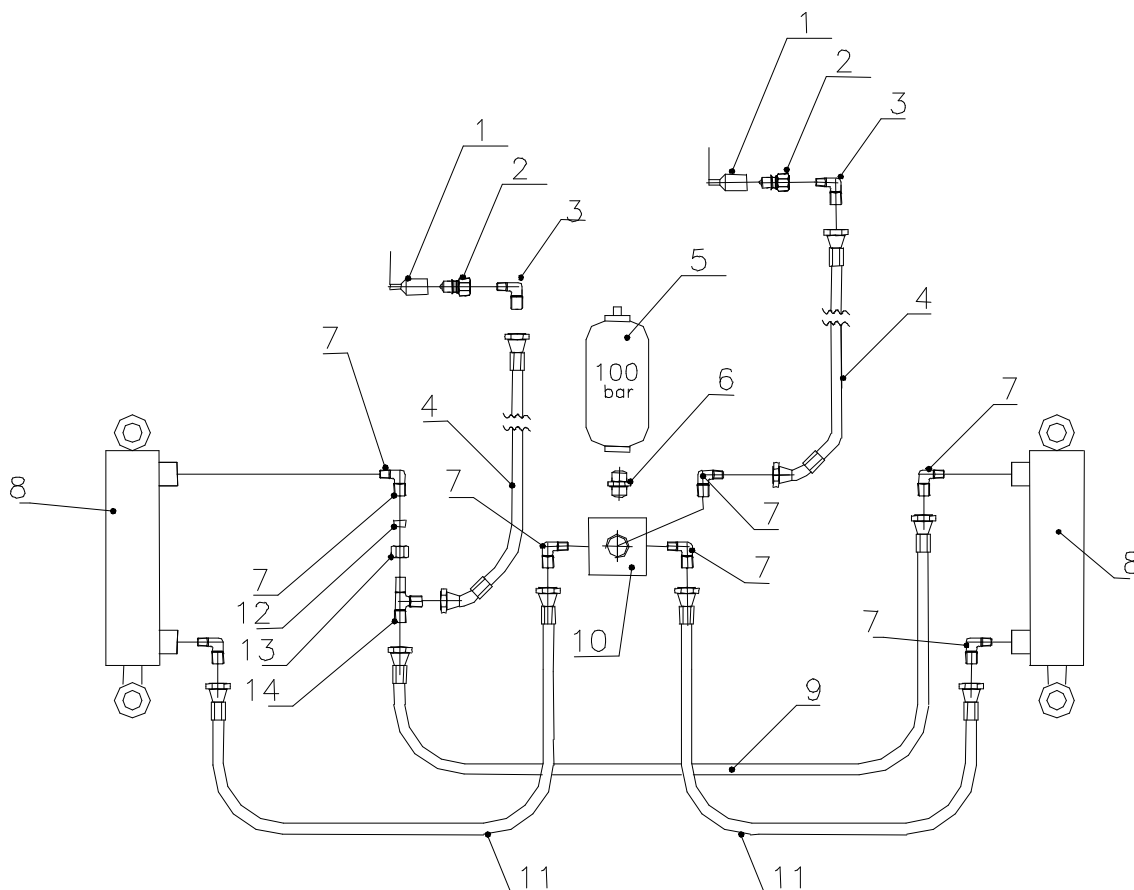
Item	Article No.	Designation	Quantity
1	690201001	Dust cap C51	2
2	690203001	Quick coupling, male E402	2
3	690203107	Angular screw-in union, VA12LK 1/2"	2
4	690201310	Hydraulic hose 5500 mm 3/8" st/45	2
5	690206403	Accumulator H0700R – 15 bar	2
6	690203102	Straight screw-in union GA12LK 3/8" without DM	2
7	690203106	Angular screw-in union VA12LK 3/8" without DM	10
8	690200280	Cylinder, Ø100/40 SL= 185 mm	2
9	690201223	Hydraulic hose 500 mm 3/8" st/st	3
10	660501400	Three-block	2
11	690201213	Hydraulic hose 300 mm 3/8" st/st	1
12	690203017	Adjustable bracket SL12L	1
13	690203110	Cutting ring Ø12	1
14	690203111	Union nut Ø12	1
15	690203007	Test nipple for manometer tap	1
16	690203008	Test hose for manometer	1
17	690206802	Manometer, G63-D250B	1



6. Hydraulic Diagram

6.5 Double-acting with Shock Absorber

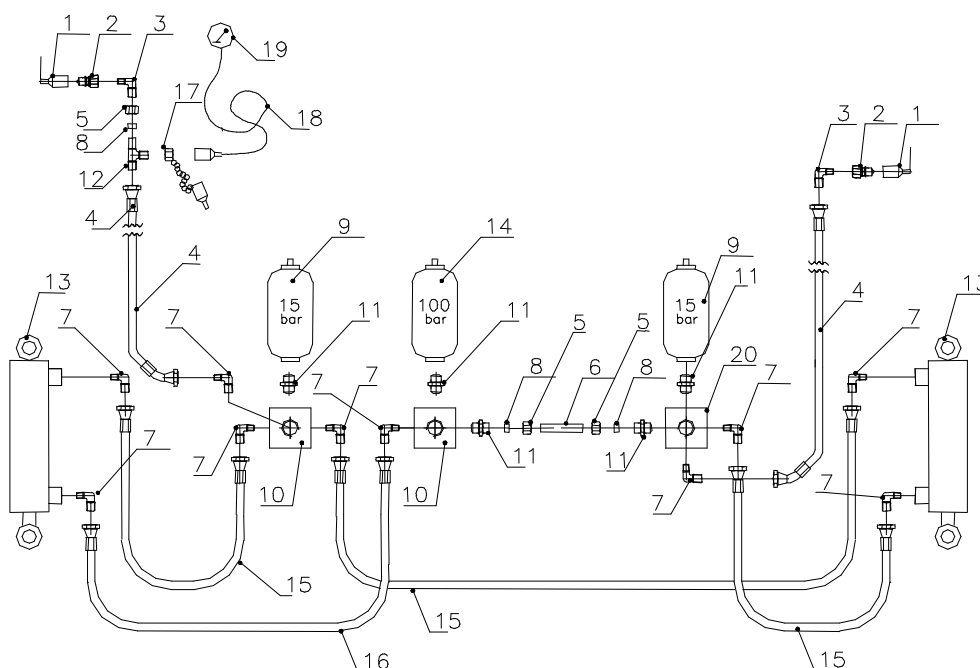
Item	Article No.	Designation	Quantity
1	690201001	Dust cap C51	2
2	690203001	Quick coupling, male E402	2
3	690203107	Angular screw-in union, VA12LK 1/2"	2
4	690201310	Hydraulic hose 5500 mm 3/8" st/45	2
5	690206435	Accumulator H0700R – 100 bar	1
6	690203102	Straight screw-in union GA12LK 3/8" without DM	1
7	690203106	Angular screw-in union VA12LK 3/8" without DM	7
8	690200280	Cylinder, Ø100/40 SL= 185 mm	2
9	690201207	Hydraulic hose 400 mm 3/8" st/st	2
10	660501400	Three-block	1
11	690201219	Hydraulic hose 350 mm 3/8" st/st	2
12	690203110	Cutting ring Ø12 mm	1
13	690203111	Union nut Ø12 mm	1
14	690203017	Adjustable bracket SL12L, without DM	1



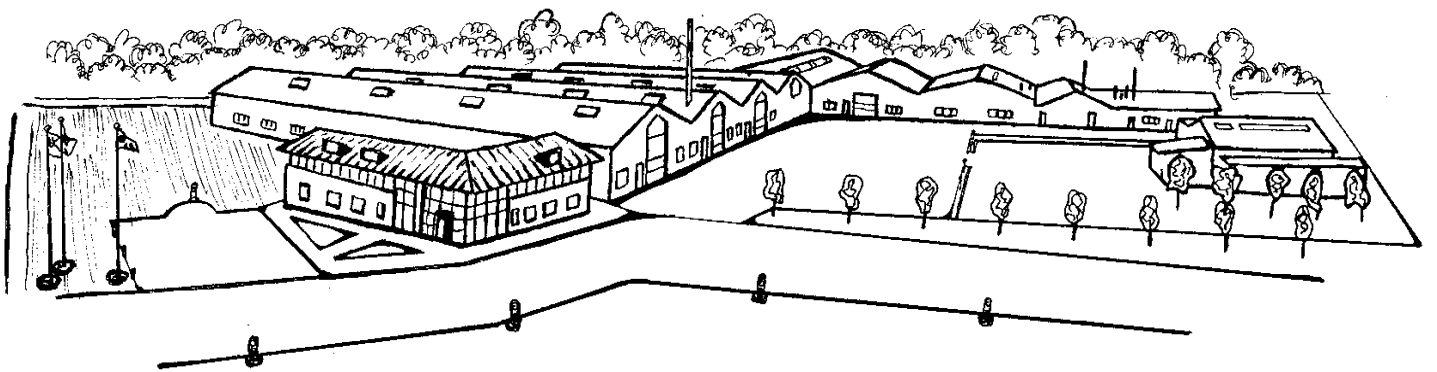
6. Hydraulic Diagram

6.6 Double-acting with Spring Suspension and Shock Absorber

Item	Article No.	Designation	Quantity
1	690201001	Dust cap C51	2
2	690203001	Quick coupling, male E402	2
3	690203107	Angular screw-in cap, VA12LK 1/2"	2
4	690201310	Hydraulic hose 5500 mm 3/8" st/45	2
5	690203111	Union nut Ø12	3
6	662000801	Hydraulic pipe Ø12 L= 35 mm	1
7	690203106	Angular screw-in union VA12LK 3/8" without DM	10
8	690203110	Cutting ring Ø12	3
9	690206403	Accumulator H0700R – 15 bar	2
10	660501300	Three-block	2
11	690203102	Straight screw-in union Ga12LK 3/8" without DM	5
12	690203017	Adjustable bracket SL12L	1
13	690200280	Cylinder, Ø100/40 SL= 185 mm	2
14	690206435	Accumulator H0700R – 100 bar	1
15	690201223	Hydraulic hose 500 mm 3/8" st/st	3
16	690201219	Hydraulic hose 350 mm 3/8" st/st	1
17	690203007	Test nipple for manometer tap	1
18	690203008	Test hose for manometer	1
19	690206802	Manometer, G63-D250B	1
20	660501400	Four-block	1



7. Notes



Subject to design modifications without notice.